

REMARKS

35 U.S.C. § 103 Rejections

The Examiner has rejected claims 1-13 and 15-30 under 35 U.S.C. § 103(a) as being unpatentable over Huang, et al. in view of Hanrahan. Applicant submits that these claims are patentable over the cited references.

Huang describes a solder/polymer fluxless composite paste for electrical contacts. See the abstract. Various examples are described of a polymer material mixed with solder particles. The solder particles coalesce in the presence of a transient flux, and the polymer provides the necessary strength to the solder particles.

What should be noted is that the paste of Huang is for a different purpose than the material of the present invention. The paste of Huang is used for electrical contacts, which requires that they be reflowable. See column 5, line 30. The material can thus be heated to allow for it to be reworked. See column 5, line 54.

The opposite is required for the material of the present invention, which is used as a thermal interface material. In a thermal interface material, it is required that the material be sufficiently stable at high temperatures. For this purpose, filler particles 20 are included in the thermal interface material 10. Without the filler particles 10, the thermal interface material 10 may tend to flow out from between the electronic component 12 and the thermally conductive member 14 during thermal cycling and/or when exposed to high humidity. The

filler particles 20 provide the necessary strength to prevent the thermal interface material 10 from flowing out from between the electronic component and the thermally conductive member 14 under such conditions. The filler particles 20 thus keep the thermal interface material 10 intact during adverse stress and thermal conditions. See page 8, lines 8-16.

Huang thus teaches away from the present invention because the paste of Huang should be reflowable and workable at high temperatures, whereas the material of the present invention should remain stable at high temperatures. Hanrahan describes a thermally conductive composite article having a PTFE material which has disposed therein thermally conductive particles, and a phase change material. One skilled in the art would not combine Huang with Hanrahan because the materials of Huang and Hanrahan serve different purposes, and the material requirements are opposite to one another, in that the material of Huang should be reflowable, whereas the material of Hanrahan should be stable. The references are thus incompatible with one another.

Applicant, accordingly, respectfully submits that claims 1-13 and 15-30 are patentable under 35 U.S.C. § 103(a) in view of Huang and Hanrahan.

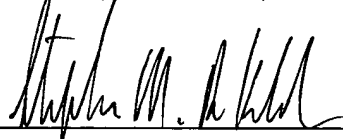
Applicant, accordingly, respectfully requests withdrawal of the rejections of claims 1-13 and 15-30 under 35 U.S.C. § 103(a) as being unpatentable over Huang, et al. in view of Hanrahan.

Applicant respectfully submits that the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Stephen M. De Klerk at (408) 720-8300.

Please charge any shortages and credit any overages to Deposit Account No. 02-2666. Any necessary extension of time for response not already requested is hereby requested. Please charge any corresponding fee to Deposit Account No. 02-2666.

Respectfully submitted,

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